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EXHIBIT A

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**Subcloning p11 (pT1-HP): the Hind III-PstI
0.95kb Fragment of Genomic Clone T11**

870409

Subcloning p¹¹Sac I - Pst I
Pst I - Hind IIIDigestion of p¹¹-6 by Sac I - Hind III - Pst IDNA 45 µl (\leq 3 µg) 1 µg p¹¹-6 (4/9 min prep.)

Sac I 2 µl

10×B 20 µl

ddH₂O 133 µl

total 200 µl 37°C 1 hr

Hind III 2 µl

10×B 10 µl

1M Tris 8.0 8 µl

5M NaCl 2 µl

ddH₂O 78 µl

total 300 µl 37°C 1 hr

Pst I 3 µl

~~10×B 10 µl~~

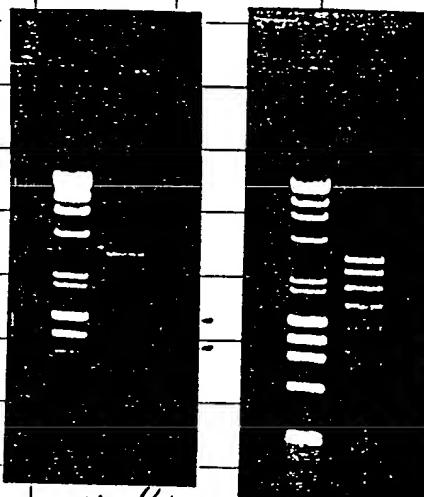
5M NaCl 3 µl

ddH₂O 95 µl

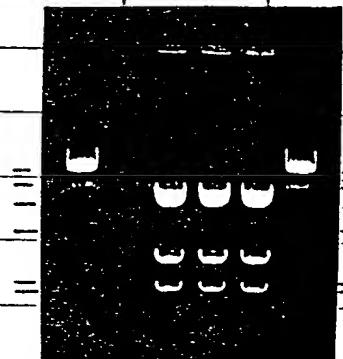
400 µl 37°C 1 hr → check 15 µl

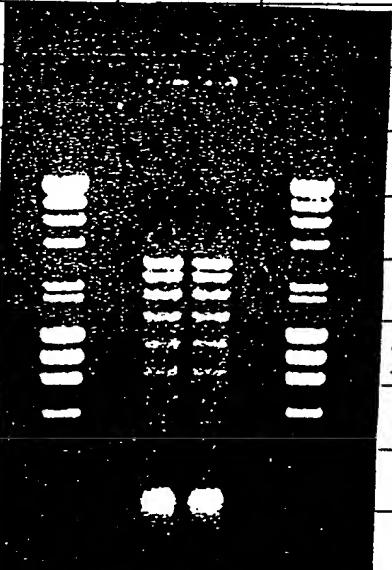
5 µl (5 µg tRNA)

12 µl (5M NaCl)

↓
Phenol ext. 5 min. (\rightarrow GIAA ext.)↓
c/g 10 min.↓
EtOH 1 ml dry ice. 20 min. \rightarrow c/g 15 min.↓
Wash c 70%. EtOH \rightarrow c/g 5 min↓
Lyophylize 7 min↓
Resaline in ~~1 ml~~ TE + BI 8 µl

870409

Subcloning	pII / SacI-HindIII 2.2 kb fragment	(cont.)
	resolve in 1% Agarose	Add SphB-T
EP	1% Agarose	(Embryo gel 3 lanes)
		2/14 0.5 ug
Gene clean.		
(C) Agarose	0.1 g	
NAI	250 μ l. 250 μ l	
Glassmilk	5 μ l	
NEW	250 μ l	
TE	2.5 μ l x 2	
		

Subcloning	pII / SacI-PstI 1.5 kb	into
	pII / PstI-HindIII 0.95 kb	
EP	1% Agarose	(Minigel 2 lanes)
Gene clean	1.2 0.95	
Agarose	0.07 0.18	
NAI	175 μ l 450	
Glassmilk	5 μ l 5 μ l	
NEW	250 μ l 250 μ l	
TE	2.5 x 2 2.5 x 2	
		

Sequencing p11 (0.95kb)

870412

Sequencing of pII - Psi S H.ind III / 0.95 kb

#128-2 18 μl. Alkaline denature

(left primer (Pmer)
right primer

$$16000 \text{ v.hr} / 1300 \text{ v} = 12.3 \text{ hr}$$

1 20:45 →

2 22:35 → 10:55

Fraction 10% methanol / 10% Acetate / 2L

15 min. after detaching gel from plate

gel dryer 80°C 50 min

Autoradiography 0% RT

v. fms

PHILIPPINES

210 200 190 180 170 160
 NCCTTGCAACCTTCTCCCCGTGAAGTGGATG-CTCCTGAGAGCATCTTGACAACTC
 : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
 AAGGGCAAATCCCCGGCTGCCTGTGAAGTGGATGGCTCCGGAGAGCATCTTCAGCTGTGTC
 4150 4160 4170 4180 4190

150 140 130 120 110 100
 1ACGCCACACTGAGTCATGCTGGTCTTATG-CATTCTGCTCTGGAGATCTTTCCCTT
 :::: : :: : ::::::: :: : :: : ::::::: :: : :: : :: : ::
 TACACGGTTCAAAAGGAACTCTGGTCTTATGGCATCTGGC1CTGGGAAATCTTCTCACTC
 4210 4220 4230 4240 4250

Score=38, Matched=90, Mismatched=28, Unmatched=2, Gaps=2
Window=20, Word-size=2, Density=Less, Gap-Penalty=4

① 88 / 112 bp

$$= 78.6 \%$$

(2) 74 / 94 b

$$= 78.79$$

LEPID - INTELLIGENETICS Tuesday

PUPIL - MOUSE PDGF RECEPTOR

250 240 230 220 210 200
 GATCATCACTGAGTAGACATGGGT TTAACCTGCTCCCTCTCTGCAG ACCTTTCTG
 :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: ::::
GCGCTGGCTGAAAGACATCATGAGGAGCTCAAAAC TACATC1CCAAAGGCAACGACCTACG
 2780 2690 2700 2710 2720 2730

170 180 170 160 150 140
CTCTGAAAGGATGCTCTGAGAGCATCTT GACAACCTCTACACCAACTGAGTGAT
 :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: ::::
CTCTGAAAGGATGCGTGGCCCAGAGAGCATCTT GACAACABGCTCTACACCAACTT GAGTGAT
 P L 2740 W M A 2750 2760 2770 2780 2790

130 120 110 100 90
CTCTGGCTCTTATEGATCTGCTCTGGAGATCTT CCCCTTGGTATGGGCCCTGA---CA
 :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: ::::
CTCTGGCTCTTGGGATCTACTCTGGGAGATCTTCACACTGAGTGGCACCCCTTACCCA
 V W 2800 R G T 2810 2820 2830 2840 2850

30 70 60 50 40
TGCTGGCTTATGATGGCT -- GTTCTGAAACACCACTGGAAGGGAAAATGTGTT
 :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: :::: ::::
AGCTGGCCATGAAACGACCACTTCTACAAATGGCATCAAGAGGGGCTACCGCA
 2860 2870 2880 2890 2900

Score=47, Matched=136, Mismatches=68, Unmatched=8, Gaps=5
 Window=20, Word-size=2, Density=Less, Gap-Penalty=4

76% m

80% - h m

① 93 / 112
 = 83.0%

② 79 / 94
 = 84.0%

IFIND - INTELLIGENETICS

Page 1

→ exon

P11SA--MOUSE PDGF RECEPTOR

Score=38, Matched=63, Mismatched=27, Unmatched=1, Gaps=1
Window=20, Word-size=2, Density=Less, Gap-Penalty=4

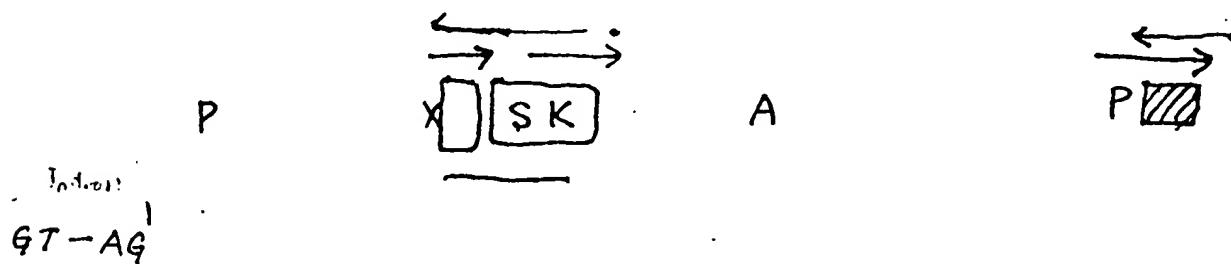
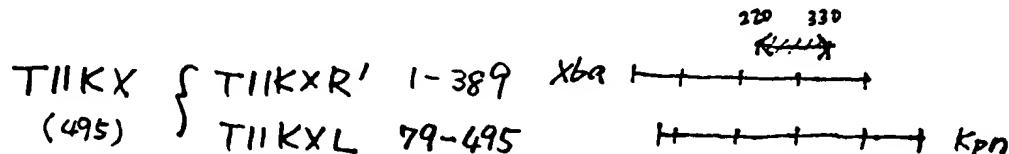
$$\frac{22}{34} \approx 65\%$$

IFIND - INTELLIGENETICS I

Page 1

MOUSE PDGF RECEPTOR--T11KX

Score=40, Matched=98, Mismatches=60, Unmatched=12, Gaps=4
Window=20, Word-size=2, Density=Less, Gap-Penalty=4



**Titration and Mini-Prep of the Okayama-Berg
cDNA Library (Normal Human Fibroblasts cDNA Library)**

870629

Titration of p-B cDNA library (ODH5⁺)

$$9.5 \times 10^4 / \text{ml}$$

$$1 \times 10^6 / \mu\text{l} (1 \times 10^9 / \text{ml})$$

$$\text{DH1} \quad 1.00_{550} = 0.5 (\sim 5 \times 10^7 \text{ cells/ml})$$

$$10 \mu\text{l} \rightarrow 1 \text{ ml}$$

$$1 \times 10^4 / \mu\text{l}$$

$$10 \mu\text{l}$$

$$10^3$$

4

111

$$10 \mu\text{l} \rightarrow 1 \text{ ml}$$

$$1 \times 10^2 / \mu\text{l}$$

$$1 \mu\text{l}$$

$$10^2$$

3

11

$$10 \mu\text{l} \rightarrow 1 \text{ ml}$$

$$1 \mu\text{l}$$

$$10 \mu\text{l}$$

$$10^2$$

2

:

$$1 \mu\text{l}$$

$$1$$

1

$$22.46' - 10.65' (124)$$

$$- 16.30' (18)$$

Titer : $1.1 \times 10^5 / \mu\text{l}$

870630

$$1.5 \times 10^8 / \text{plate} \times 66 \text{ plate}$$

$$\downarrow 13.6 \mu\text{l}$$

$$10 \mu\text{l} / \text{plate} \times 66 \text{ plates} (660 \mu\text{l})$$

$$1.5 \times 10^6 / 1000 \mu\text{l}$$

#248

870710

Miniprep. of O-B cDNA clone 1

O/N liquid cultures were stored ~~overnight~~
in 15% glycerol
at -20°C

#248
111

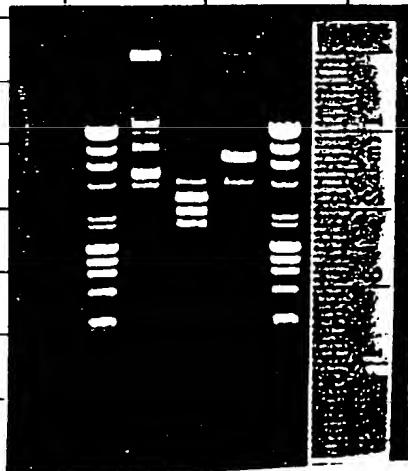
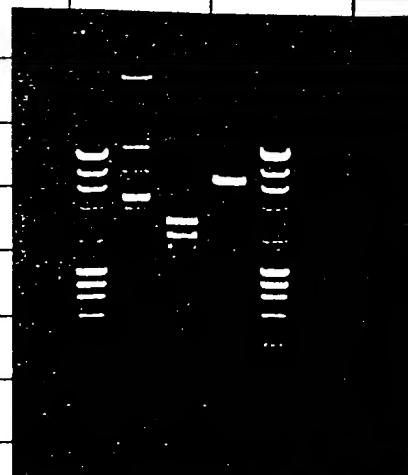
DNA	4 μ l (-1~-4)
BamH I	1 μ l
10xB	1 μ l
ddH ₂ O	4 μ l
Total	10 μ l



O-B vector 3.6
- 1.7
- 1.25
- 1.0] 2.25] 5.8] 7.5 - 3.6 = 3.95 kb

DNA	4 μ l (1-1)
SalI or XbaI	1
10xB	1
ddH ₂ O	4
Total	10 μ l

Cont. XbaI SalI

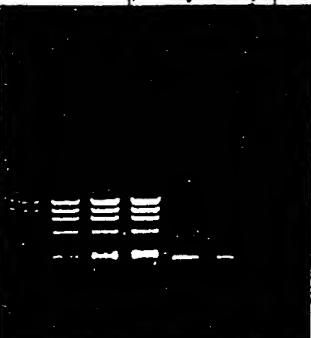


8870711 M

**Isolation of 0.2kbp Subfragment of λEF 17 To Screen
a M426 Human Embryo Fibroblast cDNA Library**

#420

880103

Isolation of EcoRI 0.2kb fragment from pMF17-2			
	#352	437 ng/ μ l	pUC13
DNA	343 μ l	150 ng	x $\frac{0.2}{2.7 + 0.2}$
EcoRI	75 μ l		
10xB	50 μ l		
RNase	10 μ l		
ddH ₂ O	22		
total	500 μ l		37°C 20 min
4% NuSieve gel		15V const.	0/1
EcoRI 0.2	T11	T11/DEC	w/o circulation
gel	0.83	1.93	1.76 g
NaI	2.1	4.9	4.4 ml
Glassmilk	15 μ l	10 μ l	10 μ l
Save TE	14.5	9.5	9.5 ml
PipX	0.25	0.5	0.25
	1/1	1/1	0.5 μ l
		#420	pMF17-2 : 0.2kb fragment
		80 ng/ μ l	

880106

Nick translation - to screen Tora's library					
	#420	MF17-2 EcoRI 0.2kb	(80ng/μl)		
DNA		1.3 μl rotting			
SalI		10			
II		5			
³² P		20			
ddH ₂ O		13.7			
total		50 μl			
	SAM NO	POS	TIME MIN	³² P	
				CPM	%ERROR
filter		20	1 1-1	1258039.0	0.18
HB		100ml			
ssDNA		400μl			
				$1.2 \times 10^6 \times 10^2 / \text{rotting}$ $(1.15 \times 10^9 / \mu\text{g})$	

Mini-Preparation of Plasmid DNA: DNA Clones TR1
through 6 and TR8

Subcloning TR4

880216

Subcloning		TR4 BamHI	3.4kb fragment	into	SVX LTR2	
#452	PCEV9/TR4		360 μ g/ml	pSVX 3032N	253 μ g/ml	
DNA	56 μ l	20 μ g		DNA	79	20 μ g
BamHI	8	25 μ l		BamHI	8	
10xB	30			10xB	40	
ddH ₂ O	206 μ l			ddH ₂ O	273	
Total	300 μ l			Total	400	37°C 1hr check 8ul
		check 8ul 0.8% agarose				phenol ext.
			0.1%	TR4 SVX (BamHI)		
cut →						
						see Reverse side

Ligation Reaction		15:00 - (3hr)			
Vector	SVX/BamHI #487	0.8	LTR2/BamHI #480 mg/ml	0.5	pUC18/SmaI 25ng 0.5
Insert	TR4 BamHI #488 (100ng)	2	TR4 BamHI #488 (100ng)	2	#470XL-N-L 32ng 3.2
T4 ligase		1		1	
5x B		2		2	
ddH ₂ O		4.2		4.5	
total		10		10	
For transformation of JM101 (1 μ l)		(1 μ l)	(1 μ l)	1/10	3/10

Minipreparation of Plasmid DNA: pSSV/TR4 (α -PDGF-R)
and HPR (β -PDGF-R)

557 # 556

580325

Minipreparation of Plasmid DNA		pSSV / TR4 or HPR	
		#557 HPR	#556 TR4
DNA	5μl		
SalI	2μl		
10xB	1.5		
ddH ₂ O	5.5		
RNase	1		
	15		
DNA	5μl		
XbaI	3μl	#556 pSSV/TR4 SalI-BclI(Xba)	
10xB	1.5		
ddH ₂ O	5.5	#557 pSSV / HPR Sal-Xba(Xba)	
RNase	1	HPR	TR4
	15	1 3 4 5 6 7 8 10 11 12 13 14 15 16 17 18	
SalI	2		
10xB	1.3		
	18.3μl		
For large prep. (1L)			
④			
⑦			

Binding of ^{125}I -labeled Human PDGF to Control Mouse
3T3 cells, Control COS-1 cells and COS-1 cells
transfected with T11 (α -PDGF-R) HPR
(β -PDGF-R) cDNA Expression Vectors

^{125}I - PDGF	binding	32D	8 wells + 4 wells	
^{125}I - C-SIS	0.5 μl / well 8 μl / total 8 ml	32D-HPR	8 wells + 4 wells	
		C-SIS	250 ng/ μl 100% A-A 210 ng/ μl 75% huPDGF Lote 88-1198 242 ng/9.8 μl	2 μl / well 2 μl / 4 wells 12.9 μl / 8 wells
			w/o competition	
^{125}I - huPDGF	0.6 μl / well (1ng) 48 μl / total 4 ml	w/o competition	(Control 2M Acetate 12.9 μl) hu PDGF 268 ng/1.8 μl 12.9 μl / 8 wells	
1. Fibronectin coating		Inubate (30 min.)	2 x 12 wells / 100 ng	
2. Cells	a) 32D JG4		85 ml / flask.	
	b) 16.2 HPR			
	cfg & resuspended in 50 ml DHEM			
	cfg & "	48 ml DHEM		
	Plate 2 ml / [fibronectin coated 12 wells / plate] well			
	& Inubate 30 min at 37°C			
3	Wash the cells & take off the non-adherent cells by using Binding Buffer (DHEM + 25 mM Hepes 1 mg/ml BSA)			
4	Binding RT 1 hr.			
	Washing by 2 ml Binding Buffer x 4 times			
5	Add 200 μl Solubilizing Buff. & sit RT. 30 min			
6	Count			

880328

1	32D	^{125}I -C-SIF	-	306				
2			-	258	282 ± 34			
3		C-SIF	256					
4			-	260	258 ± 3			
5		A-A	297					
6			-	244	284 ± 37			
7		HuPDGF	329					
8			-	264	297 ± 46			
9		^{125}I -HuPDGF	-	682				
10			-	794	738 ± 79			
11		HuPDGF	506					
12			-	527	517 ± 15			
13	32D/HPR	^{125}I -C-SIF	-	2014				
14			-	1979	1997 ± 25			
15		C-SIF	331					
16			-	324	328 ± 5			
17		A-A	1950					
18			-	2046	1998 ± 68			
19		HuPDGF	902					
20			-	960	931 ± 41			
21		^{125}I -HuPDGF	-	850				
22			-	634	742 ± 153			
23		HuPDGF	698					
24			"	544	576 ± 45			
		^{125}I -C-SIF	$20\mu\text{l}$	943	total/well 490 μl 23103			
		^{125}I -HuPDGF	$20\mu\text{l}$	1291	total/well 490 μl 31630			

